

**MEMORANDUM****ORIGINAL**

**To:** Chris Weis, Bonnie Lavelle

**From:** Stiven Foster, Bill Brattin

**Project:** Vasquez Boulevard and I-70 NPL Site  
Soil Samples Selected for Analysis of the Fines Fraction.

**Date:** November 8, 1999

**cc:** Project File

The Phase III Field Investigation Project Plan (USEPA 1999) requires 60-90 yard soil samples be selected to determine the relationship between bulk and fine fractions in soil. Attached is a list of 70 samples selected for analysis of the fines fraction (Table 1). All candidate samples were identified from a query of the Phase III database performed on November 2, 1999.

**Candidate Sample Selection**

Two strata were used in selection of soil samples for analysis of fines fraction. First, prospective samples were stratified into each of the five neighborhoods that make up the VBI70 site boundaries: Clayton, Cole, Five Points, Globeville, and Swansea/Elyria. Each of these five neighborhoods were further stratified into five arsenic concentration ranges: less than 25 ppm, 25 - 50 ppm, 50 - 100 ppm, 100 - 200 ppm, and greater than 200 ppm. Each sample within these strata was assigned a random number. Fifteen samples from each neighborhood were randomly selected for each of the five categories of arsenic concentration. Fewer than 15 samples with arsenic concentrations greater than or equal to 50 ppm were identified in the Five Points and Globeville neighborhoods.

To ensure that a wide distribution of lead levels were represented, the 15 samples in each arsenic category for each neighborhood were ordered by lead concentration. The seventh sample on the list and the samples with the lowest and highest lead concentrations were selected for analysis of the fines fraction. A total of 59 samples were identified.

To increase the number of samples with elevated lead levels, the list of all candidate samples was sorted by lead concentration. Fifteen samples contained lead greater than 800 ppm. Four of the samples with lead concentrations greater than 800 ppm were already randomly selected by the process described above. The remaining 11 samples with lead concentrations greater than 800 ppm were added to the list of samples for fines fraction analysis.

#### Sample Preparation and Analysis

The attached list of 70 samples should be provided to Morrison Knudsen Corporation. After archived samples are retrieved, all samples should be prepared and analyzed as outlined in the project plan. Samples will be tested for arsenic and lead by XRF. Ten percent of the total number of fines samples will be submitted to STL for confirmation analysis by ICP.

Contract No.: N00174-99-D-003

Delivery Order No.: 0002

Purchase Request No.: 9203.3858

EPA IAG No.: DW17953800-01-0

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Table 1. Soil Samples Selected for Analysis of the Fines Fraction				
Neighborhood	Sample ID	Address	As (mg/kg)	Pb (mg/kg)
CLAYTON	3-02837-B	3450 MONROE ST	5.3	66.4
	3-02754-B	3439 MILWAUKEE ST	0.9	124.4
	3-02765-B	2929 BRUCE RANDOLPH AVE	6.3	269.1
	3-01892-B	3408 JACKSON ST	29.9	87.7
	3-01885-B	3535 ADAMS ST	38.6	131.2
	3-03594-B	3321 ELIZABETH ST	45.6	599.2
	3-02411-B	3421 HARRISON ST	85.6	78.0
	3-01008-B	3610 HARRISON ST	56.3	165.7
	3-03596-B	3321 ELIZABETH ST	62.8	614.9
	3-02419-B	3421 HARRISON ST	158.4	81.4
	3-02128-B	3329 SAINT PAUL ST	114.8	205.8
	3-02082-B	3212 SAINT PAUL ST	110.0	331.3
	3-01053-B	3515 HARRISON ST	266.3	142.7
	3-02730-B	3423 SAINT PAUL ST	315.6	215.5
	3-02790-B	3551 MILWAUKEE ST	212.4	1172.5
	3-02781-B	3551 MILWAUKEE ST	383.0	981.7
	3-02642-B	3421 BRUCE RANDOLPH AVE	1356.0	884.9
COLE	3-00044-B	3521 RACE ST	11.9	127.3
	3-01184-B	3624 WILLIAMS ST	9.7	296.4
	3-03040-B	3637 HUMBOLDT ST	14.8	580.6
	3-00137-B	3438 VINE ST	25.2	108.7
	3-01767-B	3246 GILPIN ST	32.8	243.2
	3-01149-B	3334 WILLIAMS ST	31.4	452.1
	3-00824-B	3640 RACE ST	67.5	151.8
	3-00029-B	3315 RACE ST	72.4	290.2
	3-01775-B	3322 GILPIN ST	66.5	441.3
	3-00889-B	3422 GAYLORD ST	104.9	139.4
	3-01461-B	3338 RACE ST	189.0	404.6
	3-02475-B	3511 HUMBOLDT ST	147.8	726.1
	3-01106-B	3549 RACE ST	268.2	241.4
	3-01539-B	3557 LAFAYETTE ST	688.2	518.8
	3-02297-B	1520 E 35TH AVE	595.2	877.4
	3-02246-B	3743 FRANKLIN ST	0.0	1657.7
	3-02192-B	3541 WILLIAMS ST	16.3	1089.6
	3-01153-B	3326 WILLIAMS ST	3.3	1076.4
	3-01970-B	3611 YORK ST	13.5	849.4
	3-01541-B	3519 LAFAYETTE ST	18.8	823.3
	3-02293-B	1520 E 35TH AVE	379.5	809.4

<b>Table 1. Soil Samples Selected for Analysis of the Fines Fraction</b>				
<b>Neighborhood</b>	<b>Sample ID</b>	<b>Address</b>	<b>As (mg/kg)</b>	<b>Pb (mg/kg)</b>
FIVE POINTS	3-01637-B	3736 BRIGHTON BLVD	5.6	32.4
	3-00600-B	3624 DELGANY ST	15.0	360.3
	3-01639-B	3646 DELGANY ST	18.6	717.6
	3-01647-B	3531 WYNKOOP ST	28.1	377.5
	3-00578-B	3742 BRIGHTON BLVD	25.4	487.7
	3-00571-B	3746 BRIGHTON BLVD	75.6	554.6
	3-00577-B	3746 BRIGHTON BLVD	61.4	693.8
	3-00594-B	3521 DELGANY ST	30.8	889.3
GLOBEVILLE	3-00596-B	3521 DELGANY ST	25.4	821.5
	3-01672-B	4451 CAHITA CT	14.7	211.6
	3-01708-B	4451 CHEROKEE ST	7.1	257.2
	3-01671-B	4143 FOX ST	23.8	799.2
	3-01688-B	4408 CHEROKEE ST	35.5	237.8
	3-01686-B	4408 CHEROKEE ST	41.2	302.9
	3-01680-B	4143 FOX ST	26.7	667.9
	3-01687-B	4408 CHEROKEE ST	59.3	226.9
SWANSEA/ELYRIA	3-01679-B	4143 FOX ST	9.7	880.3
	3-00697-B	4738 GAYLORD ST	405.7	922.1
	3-00904-B	4334 ELIZABETH ST	13.7	261.1
	3-00308-B	4347 CLAYTON ST	177.7	389.4
	3-03403-B	5066 ADAMS ST	31.5	83.6
	3-01212-B	4761 THOMPSON CT	45.6	344.2
	3-00547-B	4654 HIGH ST	27.5	584.6
	3-00976-B	5060 MILWAUKEE ST	93.1	144.6
	3-00636-B	4715 WILLIAMS ST	87.6	260.2
	3-00329-B	4314 JOSEPHINE ST	79.5	540.0
	3-00971-B	4932 STEELE ST	109.6	122.6
	3-00302-B	4040 CLAYTON ST	165.4	289.9
	3-00627-B	4351 RACE ST	202.9	674.3
	3-00983-B	4932 STEELE ST	270.9	110.2
	3-00627-B	4351 RACE ST	202.9	674.3
	3-00698-B	4738 GAYLORD ST	497.4	1077.3